

# Lowell Water Utility

## Downstream Notification Report

NPDES Permit No: MA0100633

Date of Event:

Mon, Feb 5, 2018

Kevin Brander, Massachusetts DEP

Nihar Mohanty, Massachusetts DEP

Jeff Kennedy, Mass Division of Marine Fisheries

Doug Koopman, United States EPA

Todd Borci, United States EPA

Aaron Fox, Lowell Water Utility

Mark Young, Lowell Water Utility

Tom Kawa, Lowell Water Utility

Mike Stuer, Lowell Water Utility

Rick Toohey, Lowell Water Utility

Lewis Zediana, Tewksbury Water Treatment Plant

James McSurdy, Andover Water Treatment Plant

Thomas Lannan, Methuen Water Treatment Plant

Dan DiNicola, Lawrence Water and Sewer

Brian Pena, Lawrence Water and Sewer

Dear Environmental Professionals and Interested Parties:

This report describes wet-weather treatment performed at Lowell's Duck Island Clean Water Facility, as well as discharges of untreated Combined Sewer Overflows (CSOs) at the Utility's diversion structures. Wet-weather treatment refers to combined stormwater and sewage that receives screening and clarification before being mixed with water receiving biological treatment. This mixture is then disinfected and discharged into the Merrimack River in full compliance with permit requirements. CSO diversions are an untreated mixture of stormwater and dilute sewage that is discharged directly into nearby receiving waters when the capacity of the treatment and transport systems are exceeded as a result of heavy rain. These diversions occur only when necessary to protect public health and safety.

Wastewater Flow to Duck Island		
Daily Flow Rate (MGD)	Peak Hourly Flow Rate (MGD)	Instantaneous Peak Flow Rate (MGD)
43.78	103.07	104.18

Precipitation at Duck Island			
Daily Total (in)	Duration Total (hr)	Average Intensity (in/hr)	Peak Intensity (in/hr)
0.12	2	0.06	0.10

Wet-Weather Treatment Summary	
Duration (Minutes)	Volume (MG)
348	11.42

Combined Sewer Overflows Summary	
Maximum Duration (Minutes)	Volume (MG)
48	0.93

Person Reporting Event: Greg Coyle - Lowell Water Engineering

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Wet-Weather Treatment Duck Island			
Time	Duration (Minutes)	Volume (MG)	Duck Island Rain (in)
01:00	60	2.42	0.10
02:00	60	2.77	0.02
03:00	60	2.64	
04:00	60	2.09	
05:00	43	1.06	
06:00	60	0.43	
07:00	5	0.01	
08:00			
09:00			
10:00			
11:00			
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			
19:00			
20:00			
21:00			
22:00			
23:00			
24:00			

Barasford Station Diversion to Merrimack River		
Time	Duration (Minutes)	Volume (MG)
01:00		
02:00		
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		
24:00		

Beaver Brook Station Diversion to Beaver Brook		
Time	Duration (Minutes)	Volume (MG)
01:00		
02:00		
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		
24:00		

Wet Weather Treatment Duck Island			
24 Hour	Total Duration (Minutes)	Total Volume (MG)	Total Rainfall (in)
	348	11.42	0.12

Barasford Station To Merrimack River		
24 Hour	Total Duration (Minutes)	Total Volume (MG)
	0	

Beaver Brook Station To Beaver Brook		
24 Hour	Total Duration (Minutes)	Total Volume (MG)
	0	

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Merrimack Station Diversion to Merrimack River		
Time	Duration (Minutes)	Volume (MG)
01:00		
02:00	44	0.77
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		
24:00		

Read Station Diversion to Merrimack River		
Time	Duration (Minutes)	Volume (MG)
01:00		
02:00		
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
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18:00		
19:00		
20:00		
21:00		
22:00		
23:00		
24:00		

Tilden Station Diversion to Merrimack River		
Time	Duration (Minutes)	Volume (MG)
01:00		
02:00		
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		
24:00		

Merrimack Station To Merrimack River		
24 Hour	Total Duration (Minutes)	Total Volume (MG)
	44	0.77

Read Station To Merrimack River		
24 Hour	Total Duration (Minutes)	Total Volume (MG)
	0	

Tilden Station To Merrimack River		
24 Hour	Total Duration (Minutes)	Total Volume (MG)
	0	

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Walker Station Diversion to Merrimack River			Warren Station Diversion to Concord River			West Station Diversion to Merrimack River		
Time	Duration (Minutes)	Volume (MG)	Time	Duration (Minutes)	Volume (MG)	Time	Duration (Minutes)	Volume (MG)
01:00			01:00	12	0.03	01:00		
02:00			02:00	36	0.13	02:00		
03:00			03:00			03:00		
04:00			04:00			04:00		
05:00			05:00			05:00		
06:00			06:00			06:00		
07:00			07:00			07:00		
08:00			08:00			08:00		
09:00			09:00			09:00		
10:00			10:00			10:00		
11:00			11:00			11:00		
12:00			12:00			12:00		
13:00			13:00			13:00		
14:00			14:00			14:00		
15:00			15:00			15:00		
16:00			16:00			16:00		
17:00			17:00			17:00		
18:00			18:00			18:00		
19:00			19:00			19:00		
20:00			20:00			20:00		
21:00			21:00			21:00		
22:00			22:00			22:00		
23:00			23:00			23:00		
24:00			24:00			24:00		

Walker Station To Merrimack River			Warren Station To Concord River			West Station To Merrimack River		
24 Hour	Total Duration (Minutes)	Total Volume (MG)	24 Hour	Total Duration (Minutes)	Total Volume (MG)	24 Hour	Total Duration (Minutes)	Total Volume (MG)
	0			48	0.16		0	